doubled upon itself so as to make a perfect square, and sewn up so that two contiguous sides are closed, and two open, the closed sides being behind and below, and the open sides above and in front. The two upper free borders are connected with strong rods, moving upon one another at the angle when the net is opened or closed. At the lower and anterior angle a weight, generally consisting of a perforated stone, is appended, and the apparatus is complete. With this net one or two men dive into a deep part of the river, near a bold shore; immediately also some others disappear, and, having remained a considerable time under water, pop their heads up one by one, after which the net is drawn up on a shingly bank with the *Ika loa* floundering within it.

DESCRIPTION OF PLATE I.

Fig. 1. Lateral view of *Gonostomyxus loa loa* (the type specimen is contained in the Haslar Museum). About one-third of the natural size.
2. Inferior aspect of the head, with the mouth open to show the crescentic palatal membrane and the sucker-like plicated band within the border of the lower lip.
3. A scale from the shoulder, magnified about 8 diameters to show its ctenoid character and the mucus-groove on its deep surface.

3. Description of a new Species of Earth-worm (*Megascolex diffringens*) found in North Wales. By W. Baird, M.D., F.R.S., &c.

The genus *Perichæta* was formed by Schmarda to include a number of species of earth-worms differing from the more common genera in having each segment of the body marked in the centre by a narrow, raised rim, which is beset, for the whole circumference of the body, by a row of spines or setæ. He describes, in his 'Neue wirbellose Thiere,' four species, all natives of Ceylon. In 1845 Dr. Templeton characterized a new genus of earth-worms, natives also of Ceylon, which he called *Megascolex*. This genus consisted at that time of only one species, a native of the alpine regions of that island, and is distinguished, like *Perichæta*, by a row of small spines or setæ surrounding each segment. This row, however, according to Dr. Templeton's description (see Ann. & Mag. of Nat. Hist. vol. xv. p. 60) is not completely circular, the setæ being deficient in the mesial line of the back for about the tenth of an inch. Schmarda, who considers the two genera distinct, does not quote Templeton's description accurately; for he seems to think that that naturalist describes the ridges on each ring as occurring *only on the back*; whereas he distinctly says they *surround* the body, only that the rows of bristles are not continued round the whole circumference, but are deficient for a short space on the back.

In describing the genus *Perichæta*, Schmarda says that the species he describes possess no cincture or girdle, whereas in *P. cingulata*

(plate 18. fig. 162) he figures very distinctly a cincture after the thirteenth segment. I thought that perhaps a better distinctive character might consist in the form of the setæ themselves. Templeton describes them (in *Megascolex*) as about 100 in number, and as being in the form of small mamillæ, each surmounted by a minute bristle arched backwards. In *Perichæta* these bristles are bluntly lanceolate in form, slightly curved, and nearly equal in size at each extremity. Upon examining *Megascolex cæruleus*, of which we possess several specimens in the Collection of Annelids in the British Museum, I found that the setæ or spines in it were nearly exactly the same in form, only much smaller; so that in my opinion, these characters fail to constitute a distinct genus. I have now, therefore, little hesitation in referring the species of *Perichæta* described by Schmarda to the genus *Megascolex* of Templeton. The chief difference appears to me to consist of size, the species described by this latter author, *M. cæruleus*, being from 20 to 40 inches in length, and 1 or $1\frac{1}{2}$ inch in breadth, while the species of *Perichæta* described by Schmarda are only about six inches long.

Very lately my attention has been called to a species of Earth-worm found in North Wales, which evidently belongs to the same group as the *Perichæta* of Schmarda. It is about 4 or 5 inches in length, 3 lines in circumference, and is very lively in its movements—when touched by the hand, or laid upon it, twisting itself into a variety of violent contortions which render it very difficult to hold; or, as my correspondents correctly say, the motions are "like those of an eel." After the thirteenth ring there is a short cincture or girdle, which completely conceals from view the segments of the body underneath. Beyond this the worm consists of about ninety-one or ninety-two segments, making in all about 104 or 105 distinct rings. Near the extremities, both superior and inferior, the rings are very distinct; the ridges which run round them are very prominent, and the setæ are considerably, even positively, longer than those in *Megascolex*, notwithstanding the difference in size of the worms; they are of a linear lanceolate form, blunt at the apex and slightly bent, and are about 60 in number in each segment. Towards the middle of the body, these rings become nearly flat, and the setæ are not so distinctly seen, except with the lens. The back of the worm is of a brown colour, and the belly of a very pale yellow, agreeing in this respect with the *Megascolex cæruleus*. The mouth is also like that organ in *Megascolex*; and the anus is terminal, round in shape and central in position.

These worms lived for some time after being sent to me; but they appear to be very *brittle*, many of them breaking off a portion of of their body and then dying.

I have named it *Megascolex* (*Perichæta*) *diffringens*, from this habit of breaking into pieces.

In the beginning of last December, a few of those interesting Worms were sent by Mr. Johnstone, gardener at Plas Machynlleth, in Montgomeryshire, North Wales, to Mr. Draper, at Seaham Hall, near Sunderland. They were brought before the Tyneside Naturalists'

Field Club, in order to ascertain their name and history; and two of these were afterwards sent to me by Mr. Dinning, Secretary to the Club, for identification. They evidently did not belong to any described British species; nor had I ever seen such before, as occurring in this country. Unfortunately the two individuals first sent to me escaped during the night from the box in which they were confined, before I could ascertain or identify the species. A request, however, to Mr. Draper brought me two more alive; and since that time I have had several others sent to me by Mr. Johnstone direct. They

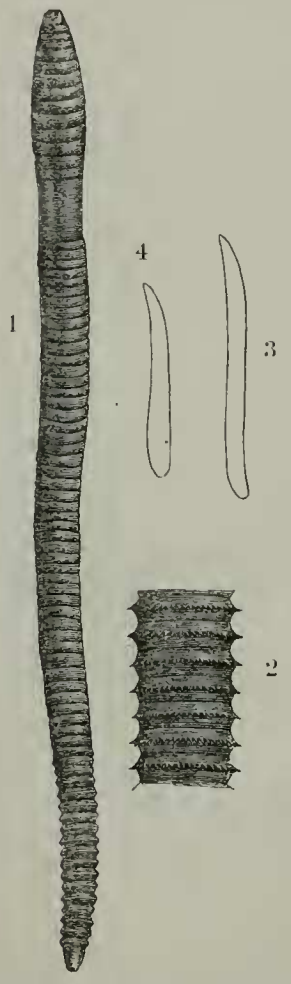

Fig. 1. *Megascolex diffringens*, natural size.
2. Portion of body, magnified.
3. Spinet of *M. diffringens*, magnified.
4. Spinet of *M. cæruleus*, magnified.

are found, he informs me, in a bed of tan and leaves in the plant-stove, mixed up and living with others of the common sort.

Upon reference to the description of Annelids by Schmarda, I

found they would properly belong to his genus *Perichæta*, which, however, upon more mature examination, I believe, as I have stated above, to be synonymous with the genus *Megascolex* of Templeton. The species hitherto described are all natives of Ceylon; but in the National Collection we have a specimen from the Dukhun (Deccan), in India, and two or three from New Zealand, undescribed; and I wrote to Mr. Johnstone to ask if there was anything in the dung-bed which came from that island or from India, through which the Worms could have been introduced into this country. In answer he tells me that "he does not know of any matter, in the bed, from the East Indies." There are, he adds, a few Orchids amongst the plants; and the bed has been partially emptied annually for five years, the same kind of worms being always found there. Mixed with these worms, in the same bed, are numbers of a common British species, some of which Mr. Johnstone kindly sent me, and which upon examination I found to be the *Lumbricus fœtidus* of Dugès.

Perhaps upon attention being called to these Earth-worms of Indian form, they may be found in other parts of the country in similar situations.

4. Description of a new Genus of Heterocerous Lepidoptera, founded upon the *Papilio charmione* of Fabricius. By Arthur G. Butler, F.L.S., F.Z.S., &c.

At page 205 of his 'Entomologia Systematica' Fabricius describes a very remarkable species of Lepidopterous insect under the name of *Papilio* (*Danais*) *charmione*, the characters of the species being probably taken from a figure by Mr. Jones, whose 'Icones' furnished Fabricius with many of his new species. This figure was copied by Donovan in 1827, forming the subject of the 171st plate of his 'Naturalist's Repository,' vol. v.

Fabricius gives the Island of Johanna as the locality from which *charmione* was obtained. But Donovan remarks, "We, however, perceive in our copy of the 'Entomologia Systematica' that this habitat is erased, a correction made by ourselves many years ago upon the authority of Mr. Jones himself."

In his 'Species Général des Lépidoptères' (published 1836) M. Boisduval referred this species to the genus *Terias* (*Pierinæ*), with the following observation:—"Ne l'ayant jamais vue, nous n'affirmons pas qu'elle appartienne au genre *Terias*." But in the margin of the page I find a note in pencil by Mr. E. Doubleday—"Not even a Butterfly."

The supposition that *charmione* was a Rhopalocerous insect seems to have arisen from the fact that it is represented as such by Donovan. Whether the antennæ really are clubbed or not, is a question that can only be decided when we see a perfect example of the species; at present the only point that can be settled is that the species certainly is not a Butterfly; for an old and well-worn specimen in